

FIG. 1

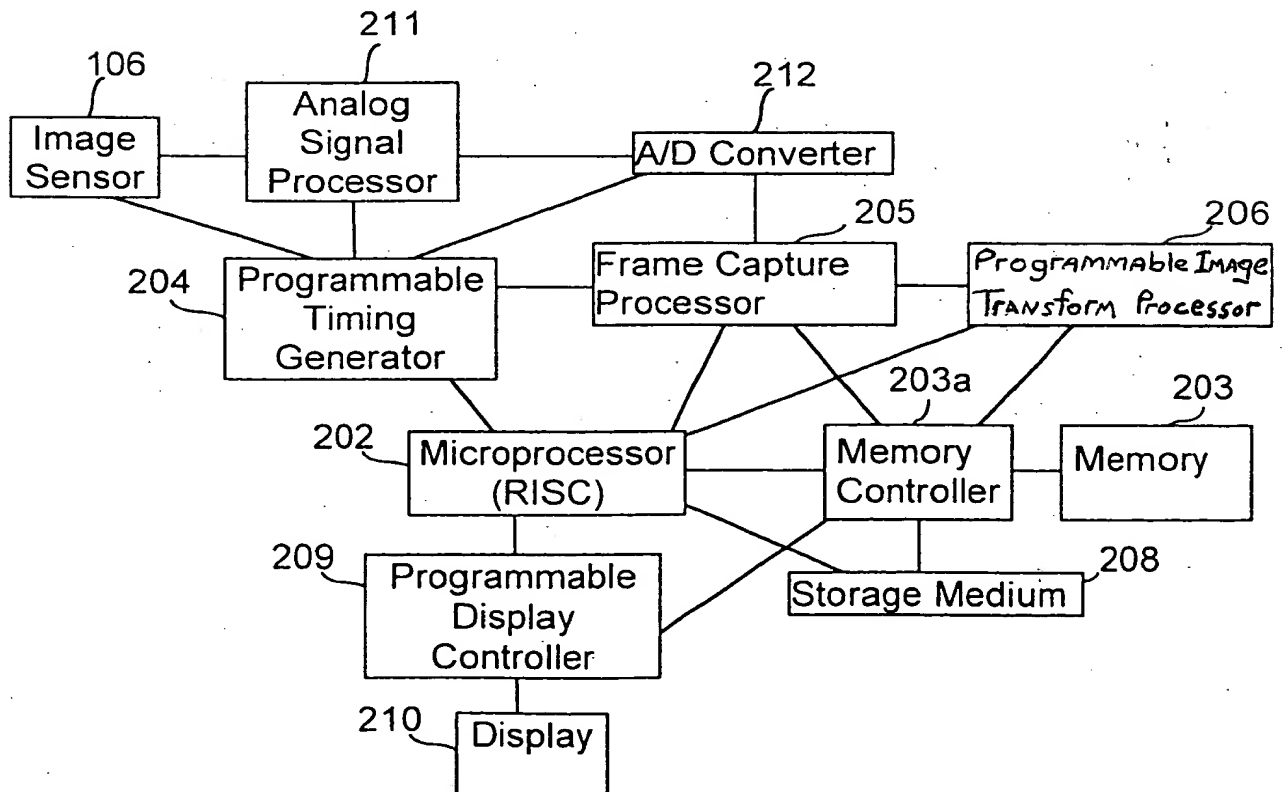


FIG. 2

FIG. 2 is a block diagram of a mass pixel transfer system. The system includes an input block 322 receiving signals VN1, ..., VNn and outputting V1, ..., Vm to a central array 302. The array 302 is divided into columns 312, 308, 310, and 316. A dashed box 318 at the bottom of the array is connected to a reset signal and a block 314. Block 314 is connected to a block 304, which is connected to an A/D converter 306. The A/D converter 306 outputs to an ASP block 304, which outputs XSHP and XSHD signals. The ASP block 304 is also connected to a DumpCharge signal and a Mass Pixel Transfer signal. The array 302 is also connected to a DumpCharge signal and a Mass Pixel Transfer signal.

FIG. 3

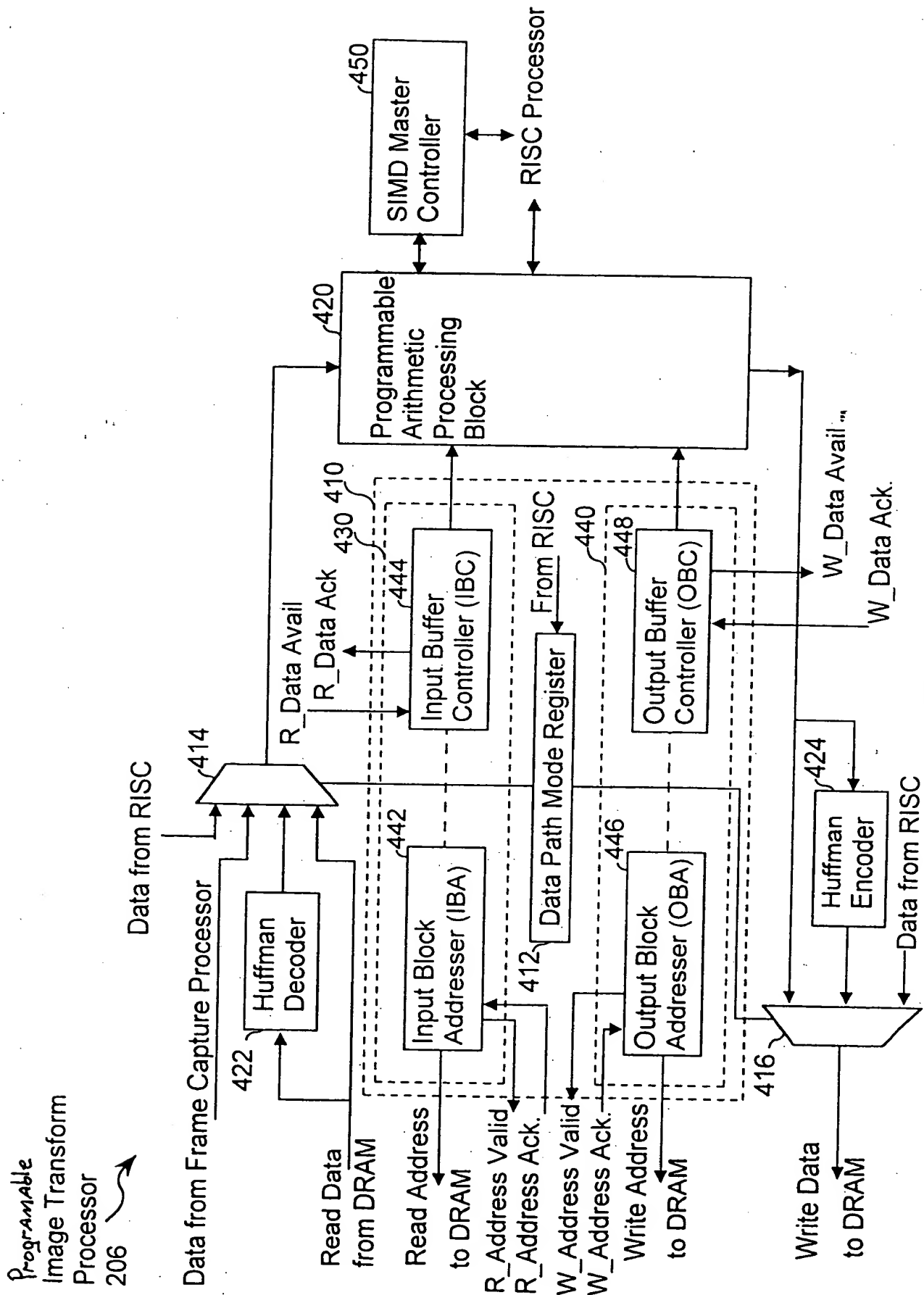


FIG. 4

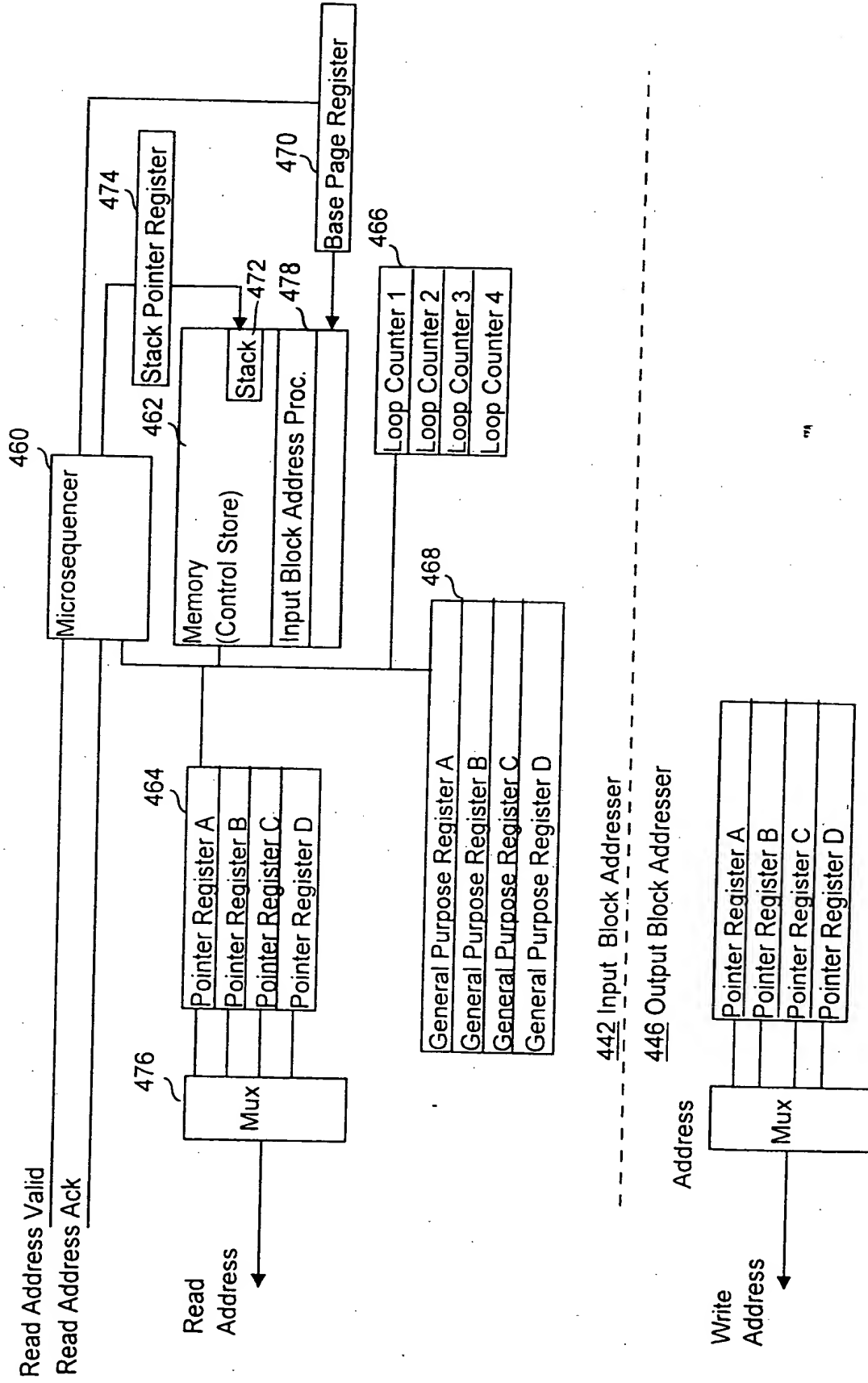
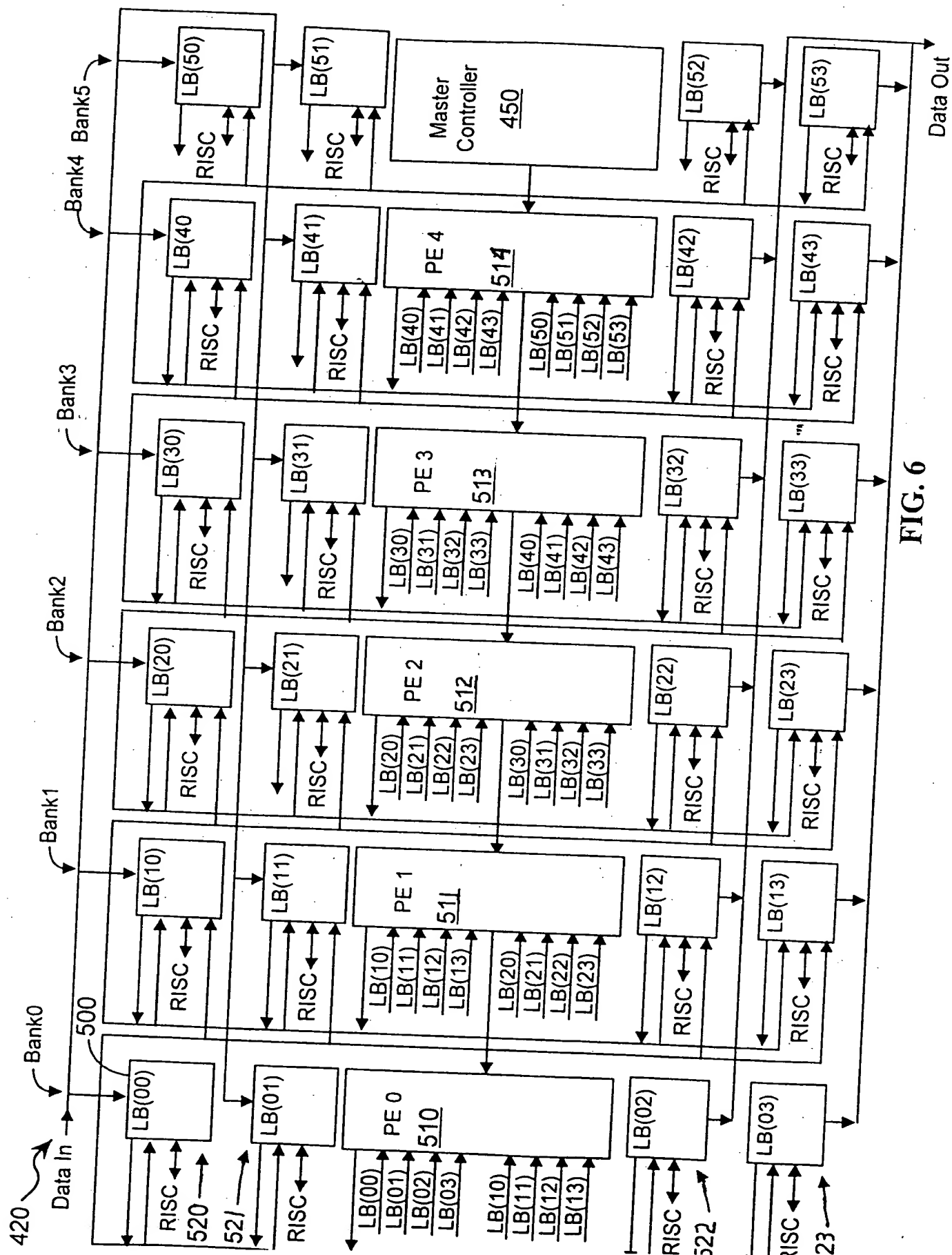
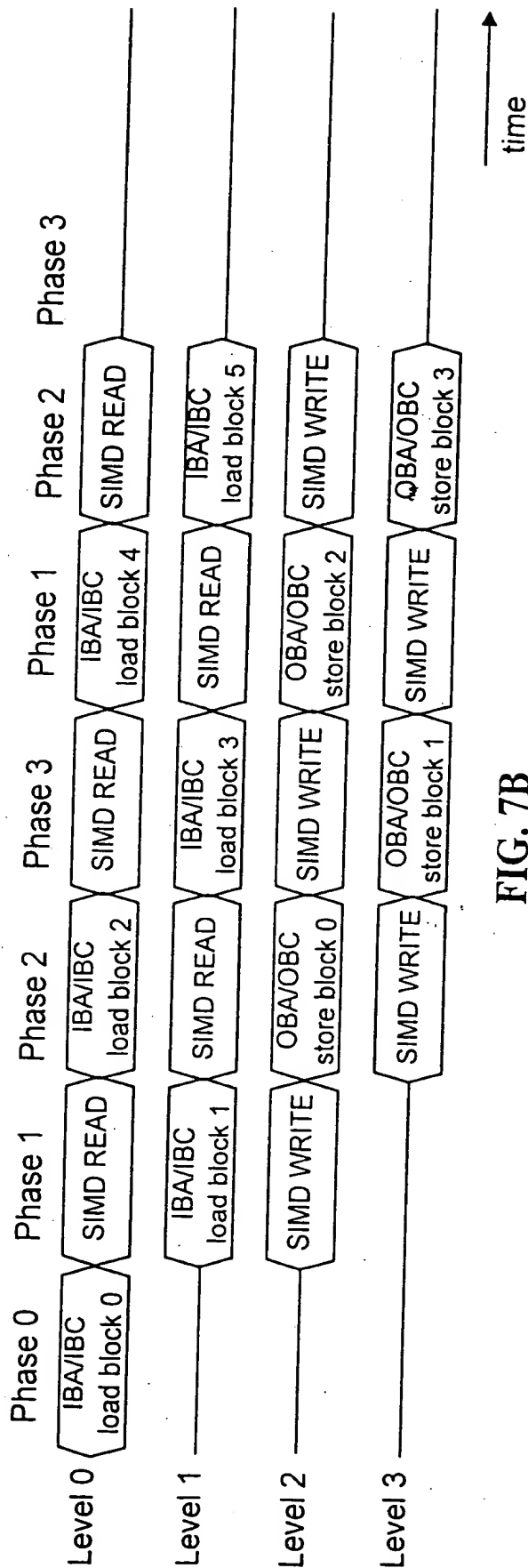
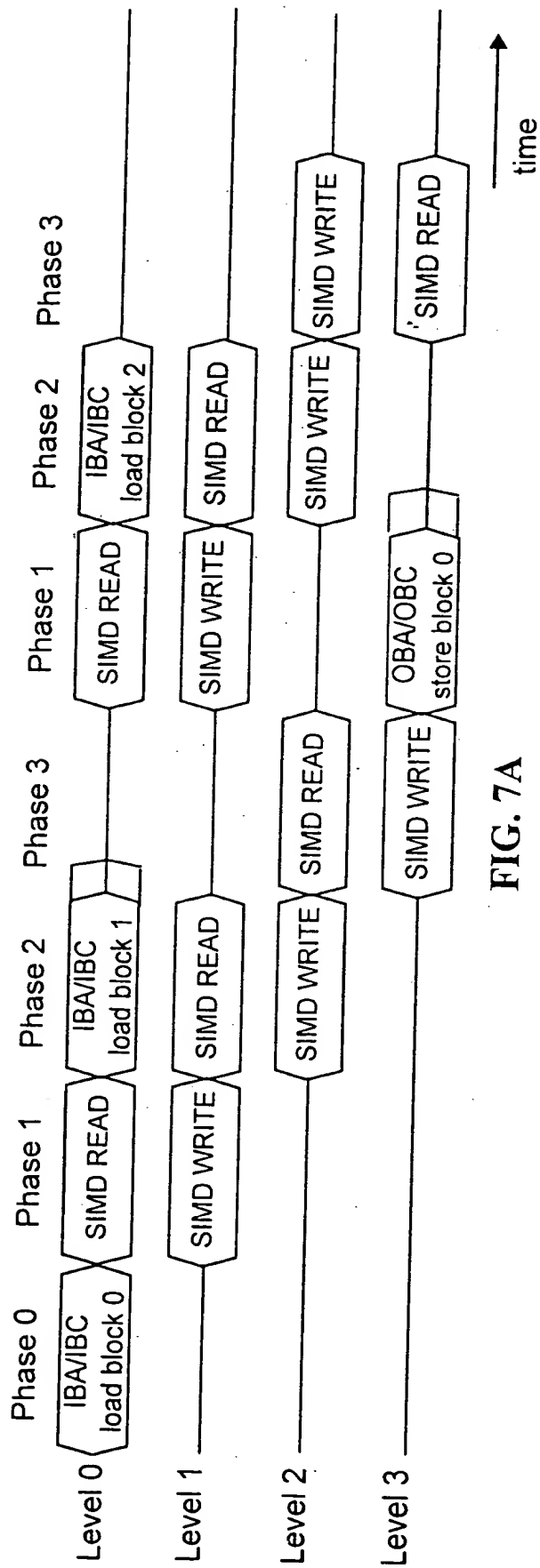


FIG. 5





580

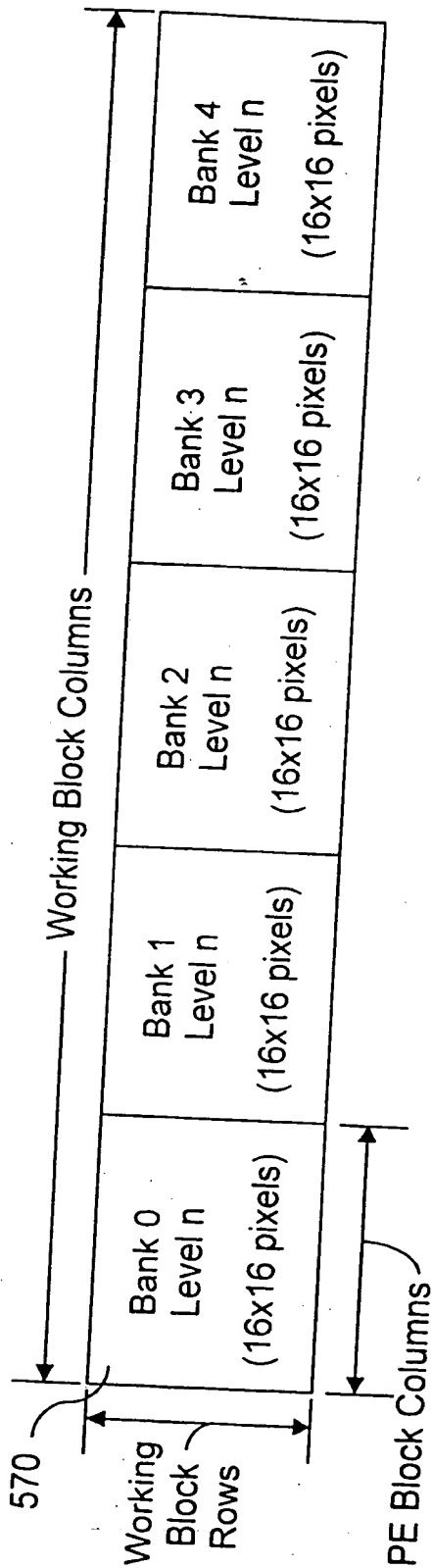
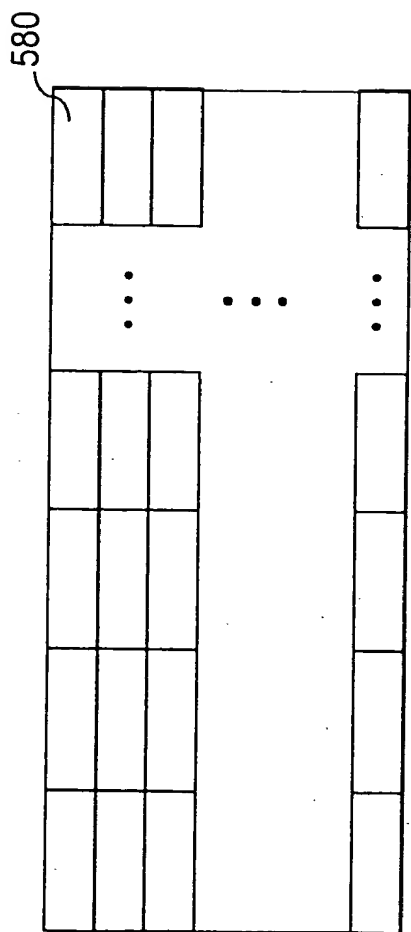
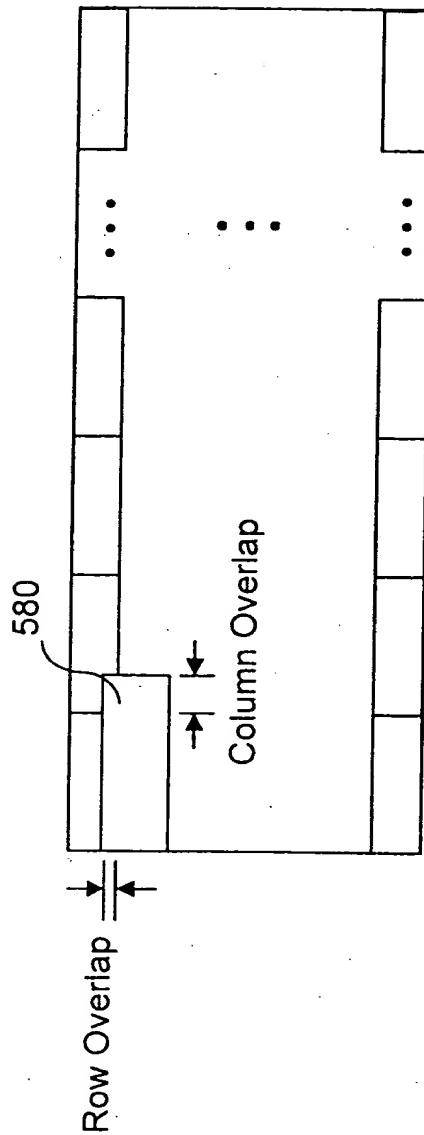


FIG. 8



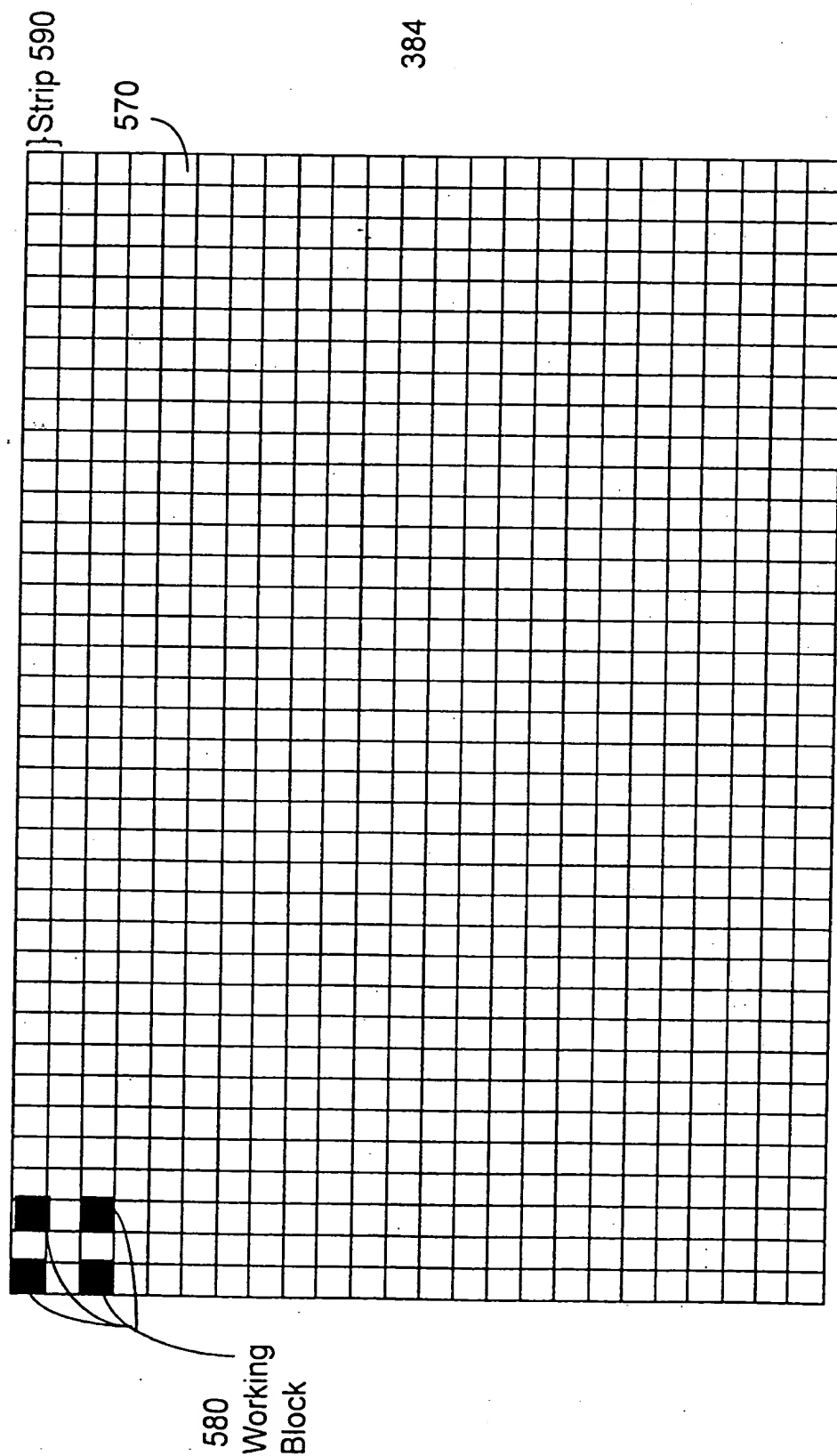
Working Blocks in Image Data

FIG. 10



Overlapping Working Blocks in Image Data

FIG. 11



584

Image and Example of a dispersed processing blocks making up a working block.

FIG. 12B

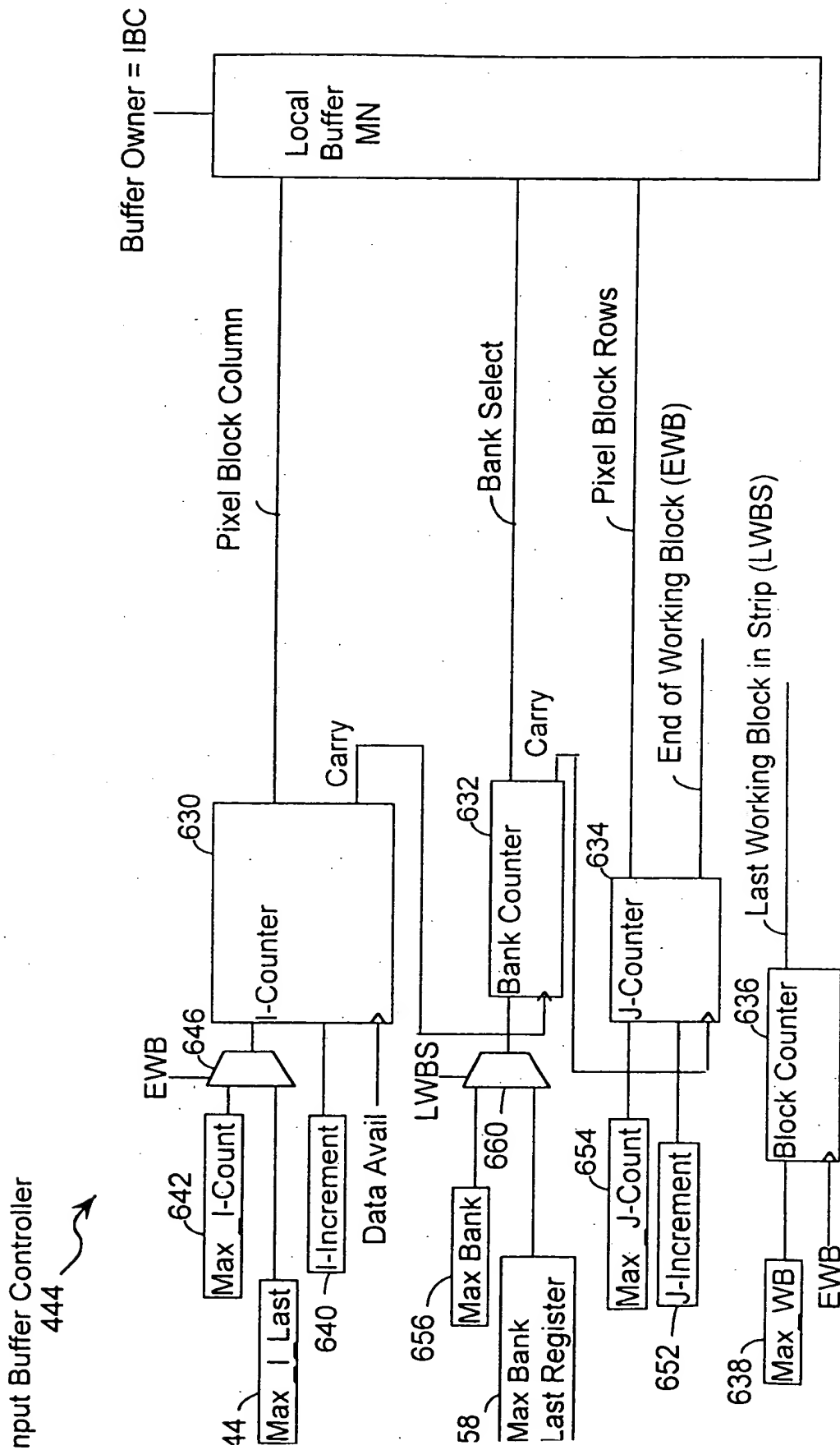
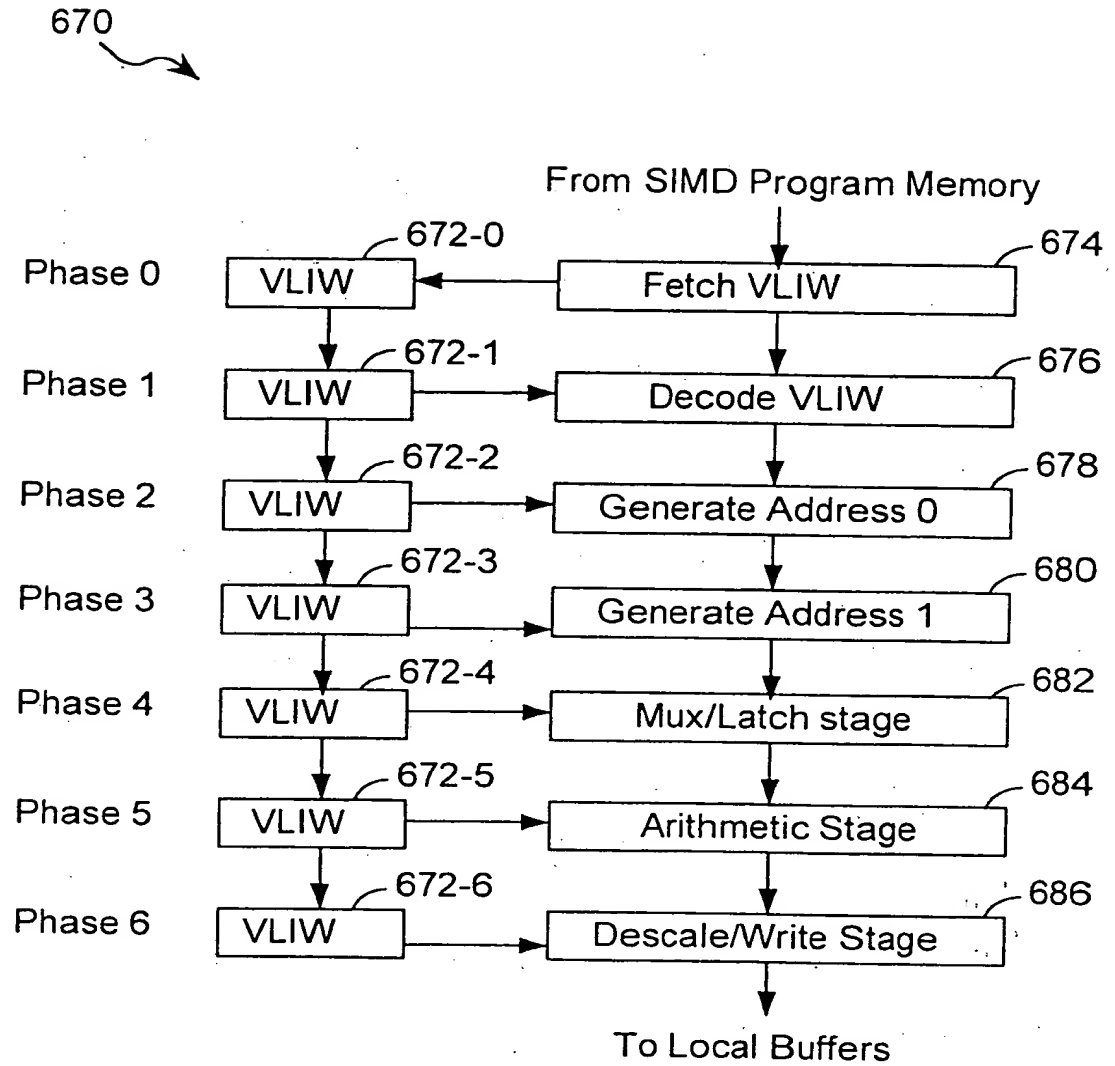
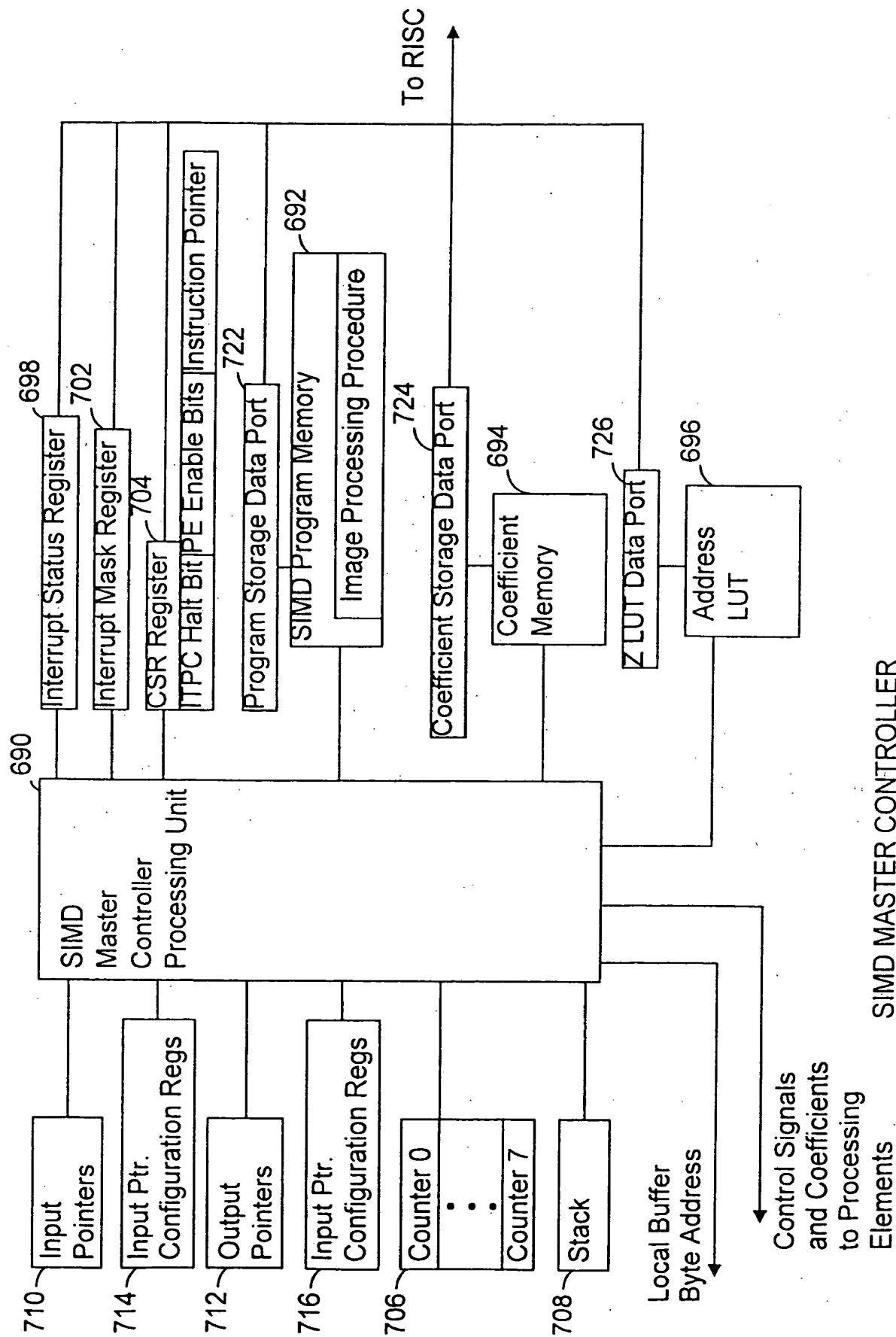


FIG. 14



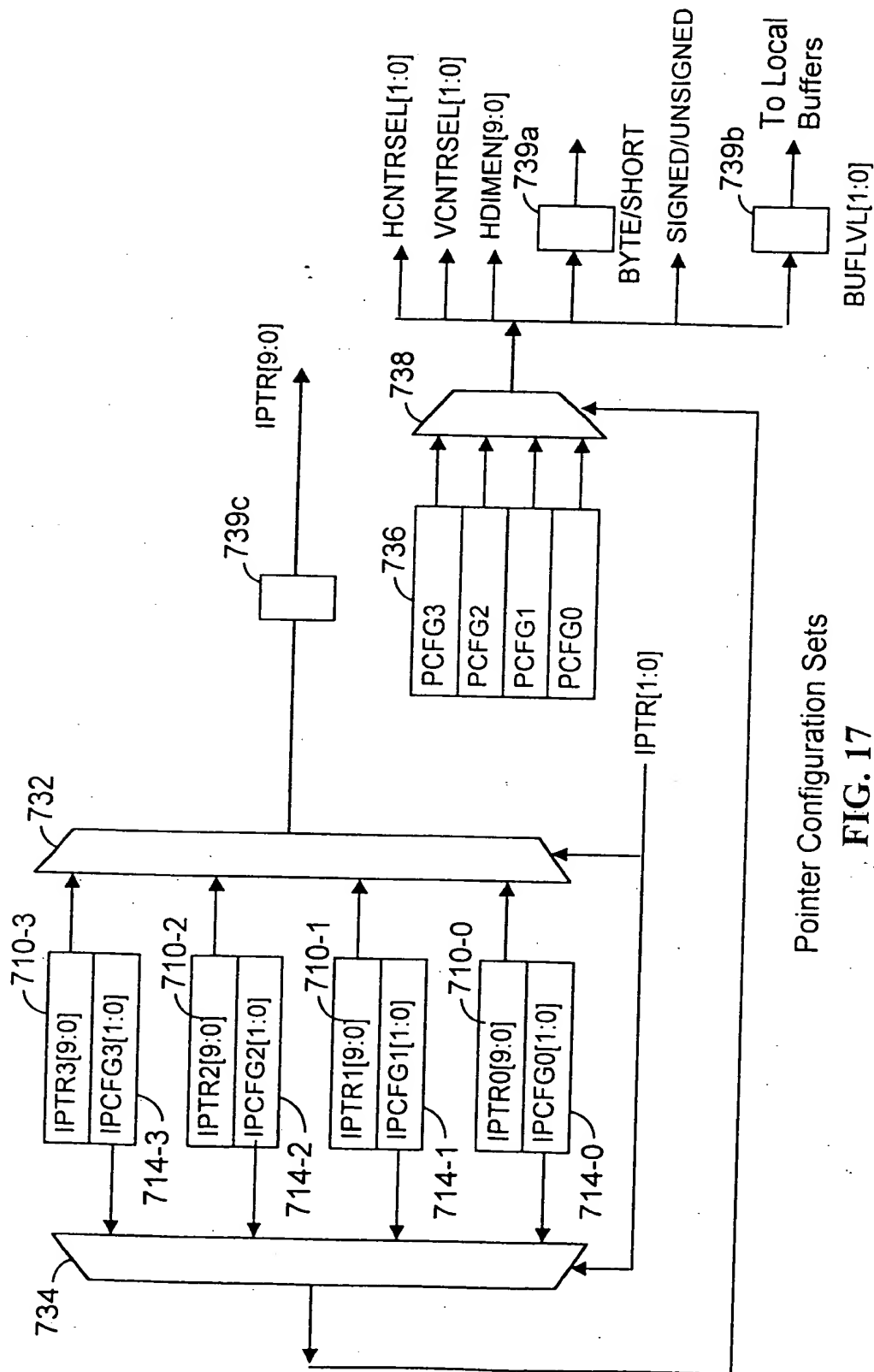
SIMD Pipeline Stages

FIG. 15



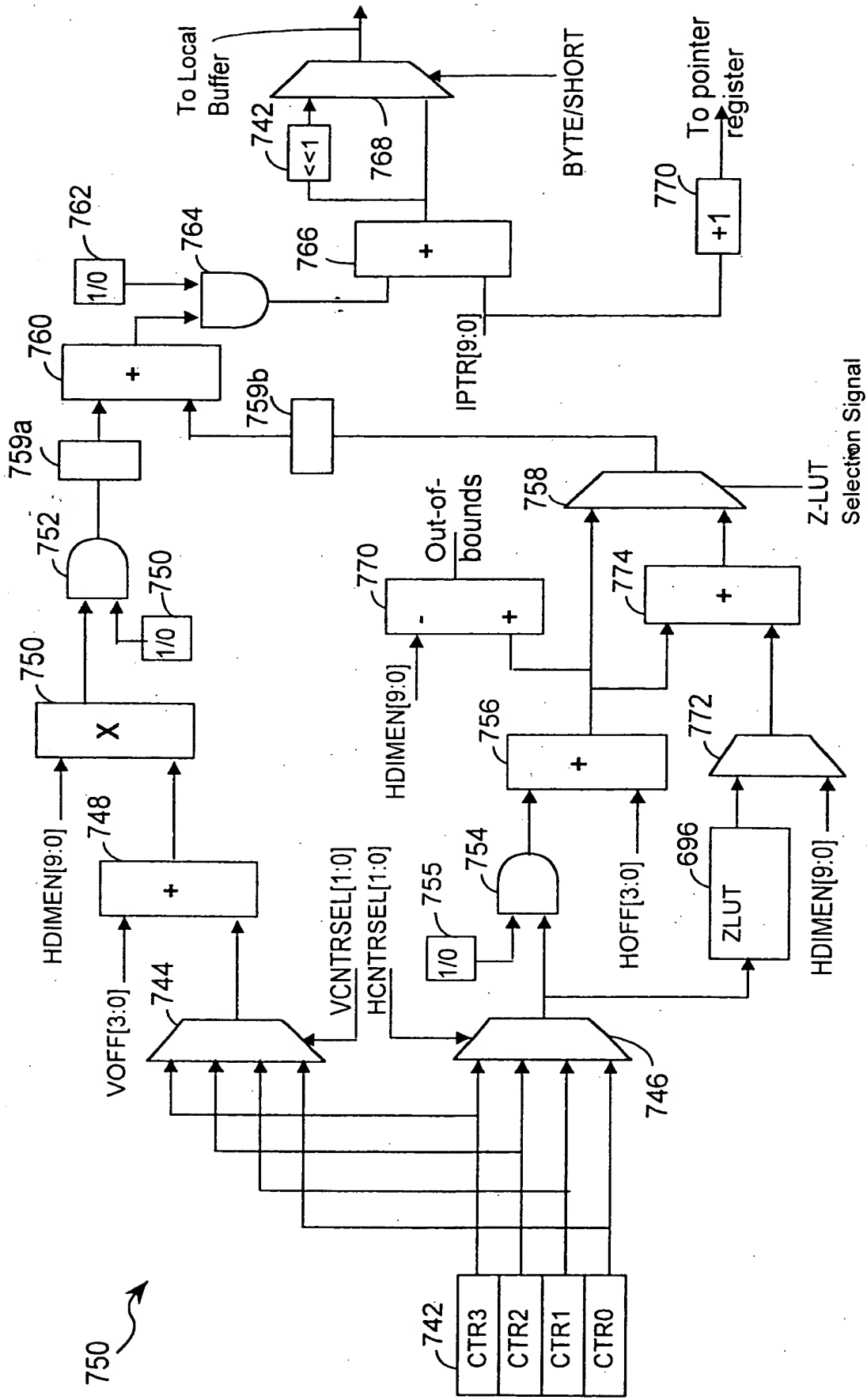
SIMD MASTER CONTROLLER

FIG. 16



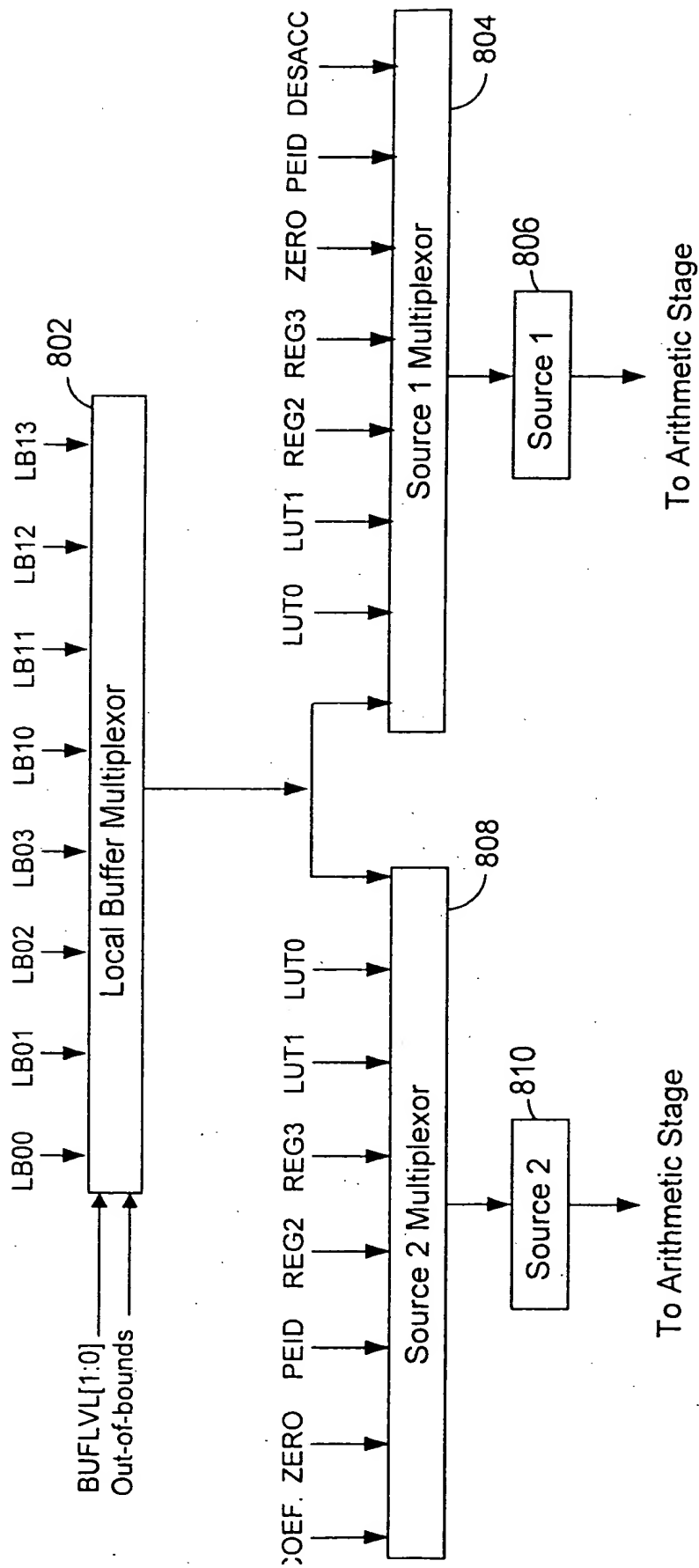
Pointer Configuration Sets

FIG. 17



EFFECTIVE ADDRESS GENERATION

FIG. 18



Processing Element
Multiplexor/Latch Stage

FIG. 19

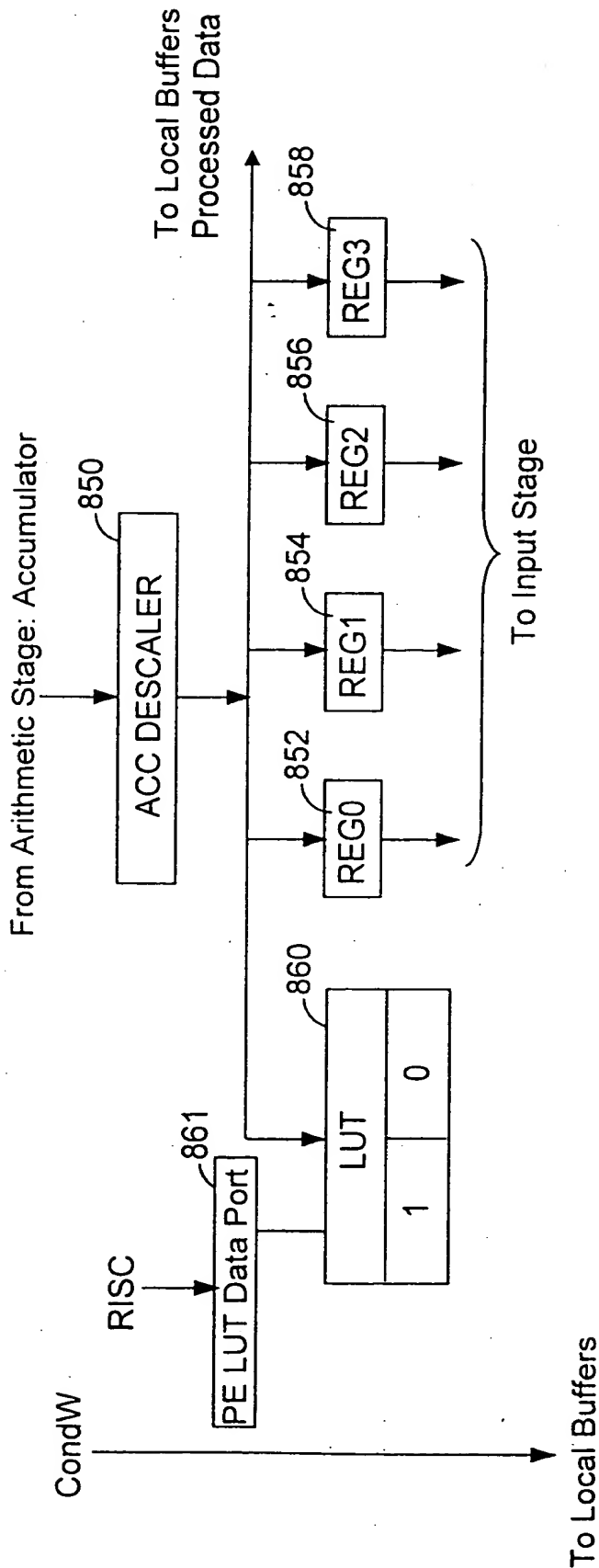
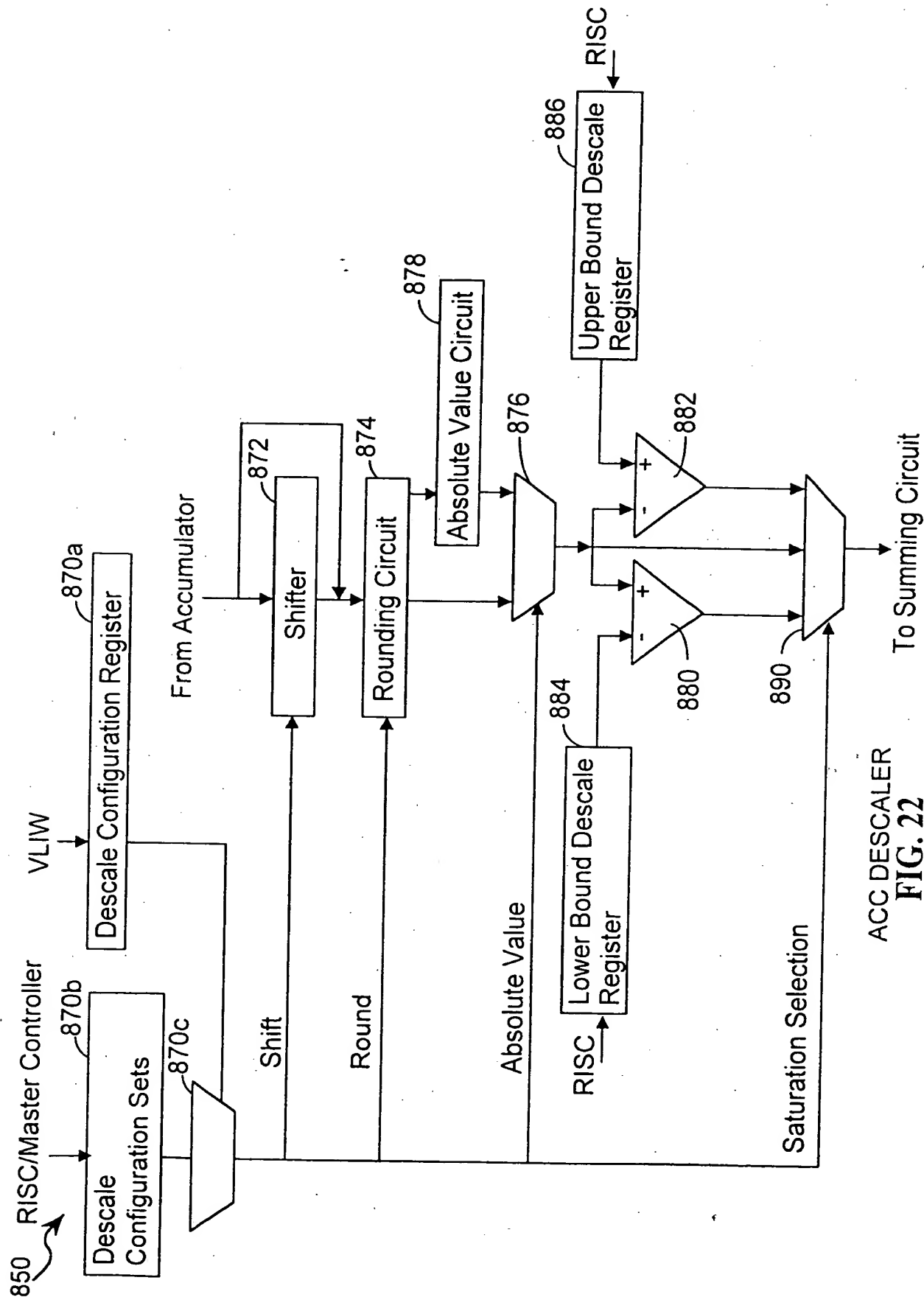
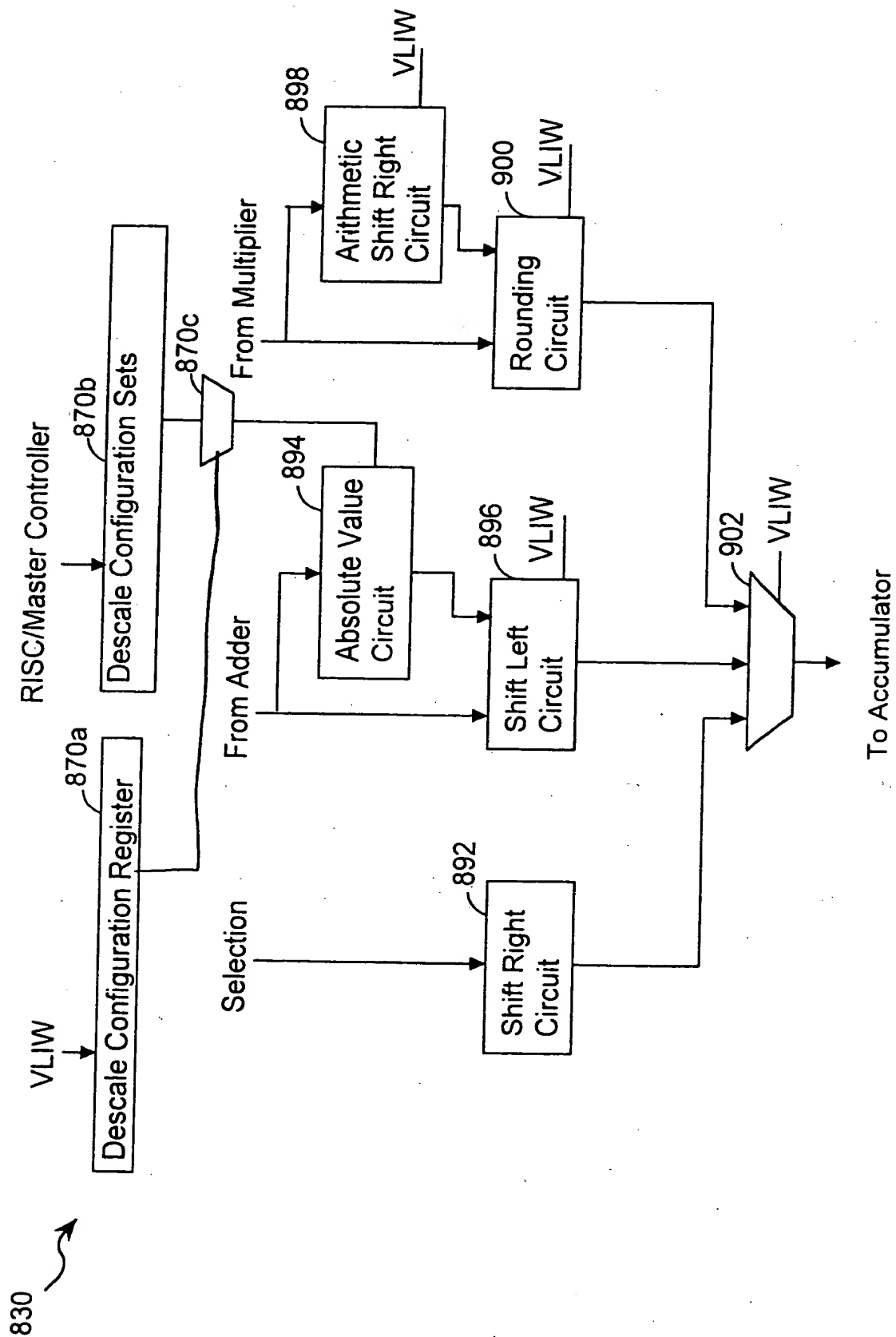


FIG. 21



ACC DESCALER
FIG. 22



ALU DESCALER

FIG. 23

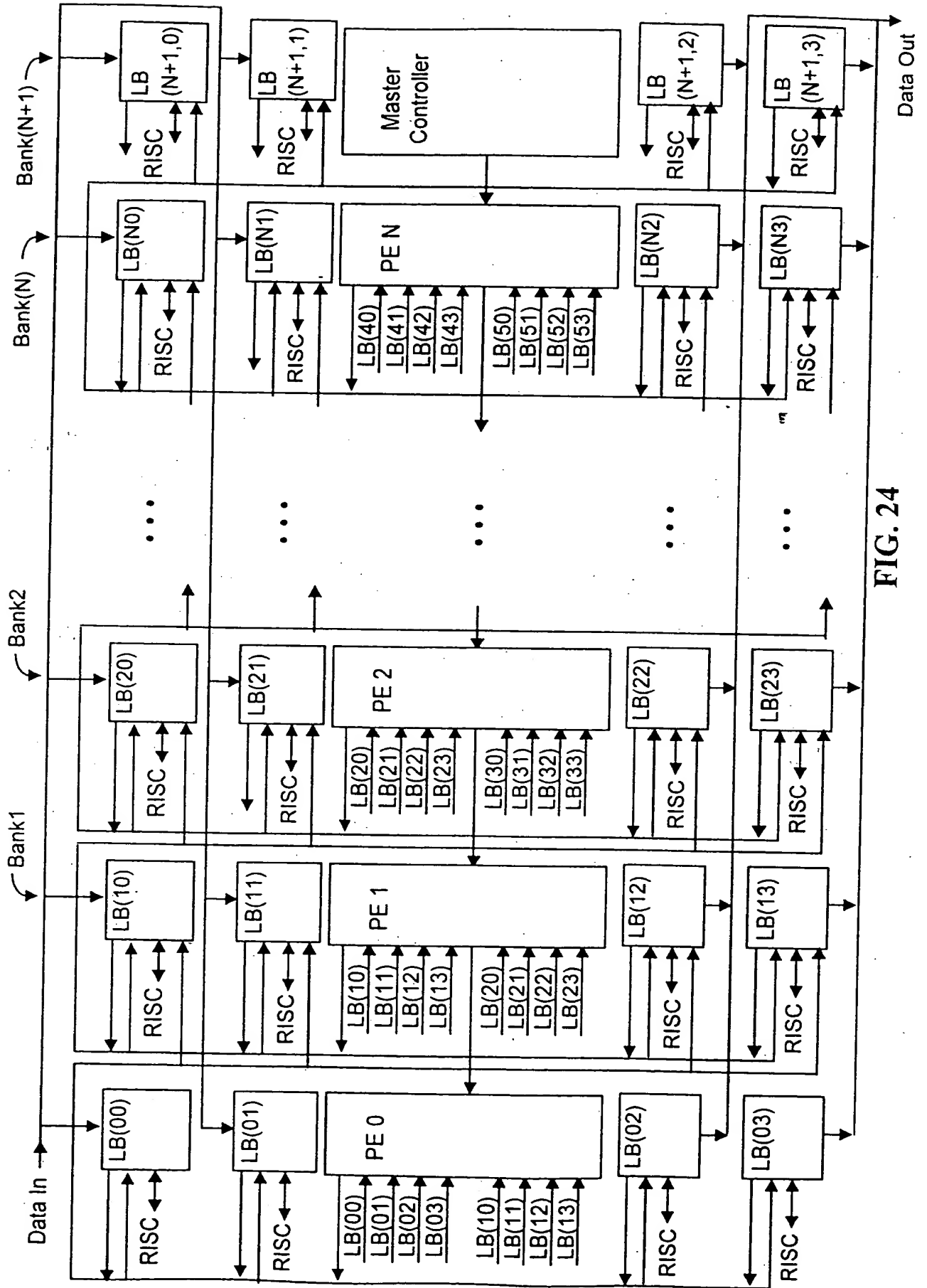


FIG. 24

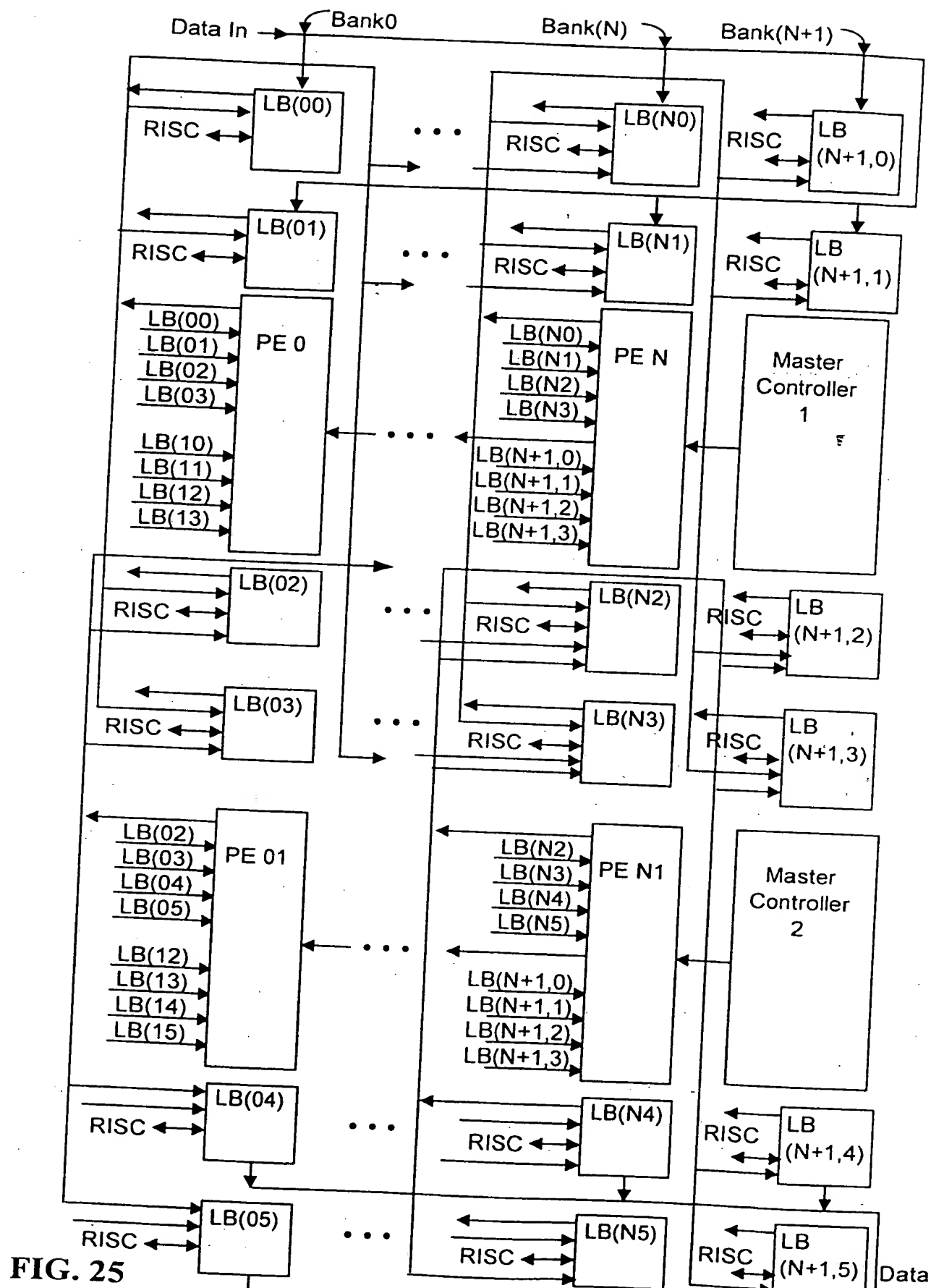


FIG. 25

Start
2600

Provide a first portion of an input image in a first buffer of a plurality of buffers.

2602

Perform a first processing operation on the first portion of the input image to define a first processing image data portion.

2604

Store the first processed image data portion in a second buffer of plurality of buffers.

2606

Provide a second portion of the input image in the first buffer. <u>2608</u>

Perform a second processing operation on the first processed image data portion to define a second processed image data portion.

2610

Store the second processed image data portion in a third buffer of the plurality of buffers.

2612

Perform the first processing operation on the second portion of the input image to define a third processed image data portion.

2614

Store the third processed image data portion in the second buffer.

2616

Provide the second processed image data portion on to a data path as output image data.

2618

End
2622

No More input image portions?
2620

Yes

FIG. 26